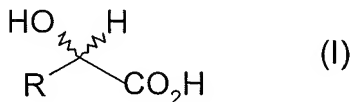


AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently amended) A method for the microbiological isomerization of alpha-hydroxycarboxylic acids of the formula I



where

R is straight-chain or branched C₂-C₈ alkyl or C₂-C₈ alkenyl or -(CH₂)_n-Cyc, where n is an integer of 0 to 4, and Cyc is an unsubstituted or mono- or polysubstituted, mono- or binuclear carbo- or heterocyclic ring,

wherein said method comprises isomerizing a substrate consisting essentially of a first stereoisomer of an alpha-hydroxycarboxylic acid of the formula (I) with an enzyme in a reaction medium to obtain a second stereoisomer or an isomer mixture comprising the first stereoisomer and the second stereoisomer,

wherein the enzyme is contained in an extract of a microorganism or present in intact cells of a microorganism which express the enzyme, wherein said microorganism is selected from microorganisms of the genus *Laetobacillus* the group consisting of the strains *L. paracasei* DSM 15755, *L. paracasei* DSM 15751, *L. delbrueckii* DSM 15754, *L. sakei* DSM 15753 and *L. oris* DSM 15752, and wherein said microorganism is capable of racemizing at least one compound selected from the group consisting of (R) and/or (S) form of phenyl lactate, 4-fluorophenyl lactate, 2-hydroxy-4-phenylbutyric acid, 2-hydroxy-4-methylpentanecarboxylic acid and 2-hydroxy-3-methylbutyric acid.

2-17. (Cancelled)

18. (Previously presented) The method of claim 1, wherein the second stereoisomer is removed from the isomer mixture and the remaining part of the isomer mixture is subjected to a further isomerization step.

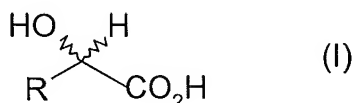
19. (Previously presented) The method of claim 1, wherein the isomer mixture is subjected to a subsequent chemical or enzymatic stereoselective reaction and a reaction mixture is obtained, wherein the reaction mixture obtained is subjected to a further isomerization step.

20. (Previously presented) The method of claim 1, wherein the isomerization reaction is coupled with a subsequent chemical or enzymatic, enantioselective reaction, during which the second stereoisomer is removed from the reaction medium.

21. (Previously presented) The method of claim 19, wherein the subsequent chemical or enzymatic, enantioselective reaction is an esterification or an amidation of the alpha-hydroxycarboxylic acid.

22-27. (Cancelled)

28. (Currently amended) A method for the microbiological isomerization of alpha-hydroxycarboxylic acids of the formula I



where

R is straight-chain or branched C₂-C₈ alkyl or C₂-C₈ alkenyl or -(CH₂)_n-Cyc, where n is an integer of 0 to 4, and Cyc is an unsubstituted or mono- or polysubstituted, mono- or binuclear carbo- or heterocyclic ring,

wherein said method comprises

(i) screening and obtaining a microorganism of the genus *Lactobacillus* or *Laetoeoccus* that is capable of racemizing at least one compound selected from the group consisting of (R) and/or (S) form of phenyl lactate, 4-fluorophenyl lactate, 2-hydroxy-4-phenylbutyric acid, 2-hydroxy-4-methylpentanecarboxylic acid and 2-hydroxy-3-methylbutyric acid,

(ii) isomerizing a substrate consisting essentially of a first stereoisomer of an alpha-hydroxycarboxylic acid of the formula (I) with an enzyme in a reaction medium to obtain a

second stereoisomer or an isomer mixture comprising the first stereoisomer and the second stereoisomer, wherein the enzyme is contained in an extract of said microorganism or present in intact cells of said microorganism which express the enzyme, wherein said microorganism is selected from the group consisting of the strains *L. paracasei* DSM 15755, *L. paracasei* DSM 15751, *L. delbrueckii* DSM 15754, *L. sakei* DSM 15753 and *L. oris* DSM 15752.

29-30. (Cancelled)

31. (Previously presented) The method of claim 28, wherein the second stereoisomer is removed from the isomer mixture and the remaining part of the isomer mixture is subjected to a further isomerization step.

32. (Previously presented) The method of claim 28, wherein the isomer mixture is subjected to a subsequent chemical or enzymatic stereoselective reaction and a reaction mixture is obtained, wherein the reaction mixture obtained is subjected to a further isomerization step.

33. (Previously presented) The method of claim 28, wherein the isomerization reaction is coupled with a subsequent chemical or enzymatic, enantioselective reaction, during which the second stereoisomer is removed from the reaction medium.

34. (Previously presented) The method of claim 32, wherein the subsequent chemical or enzymatic, enantioselective reaction is an esterification or an amidation of the alpha-hydroxycarboxylic acid.